FreeWave

Radio Modems
For Use With
Differential Corrections

FreeWave
User Manual

Confidently. Accurately.

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Introduction

This document describes the recommended configuration for the FreeWave FGR-115RC radio modems. These radio modems may be supplied as part of an RT system that includes a base-station. The settings for the base-station radio modem (Base) and for the vehicle radio modem (Mobile) are nearly identical, only differing in a few settings.

Components

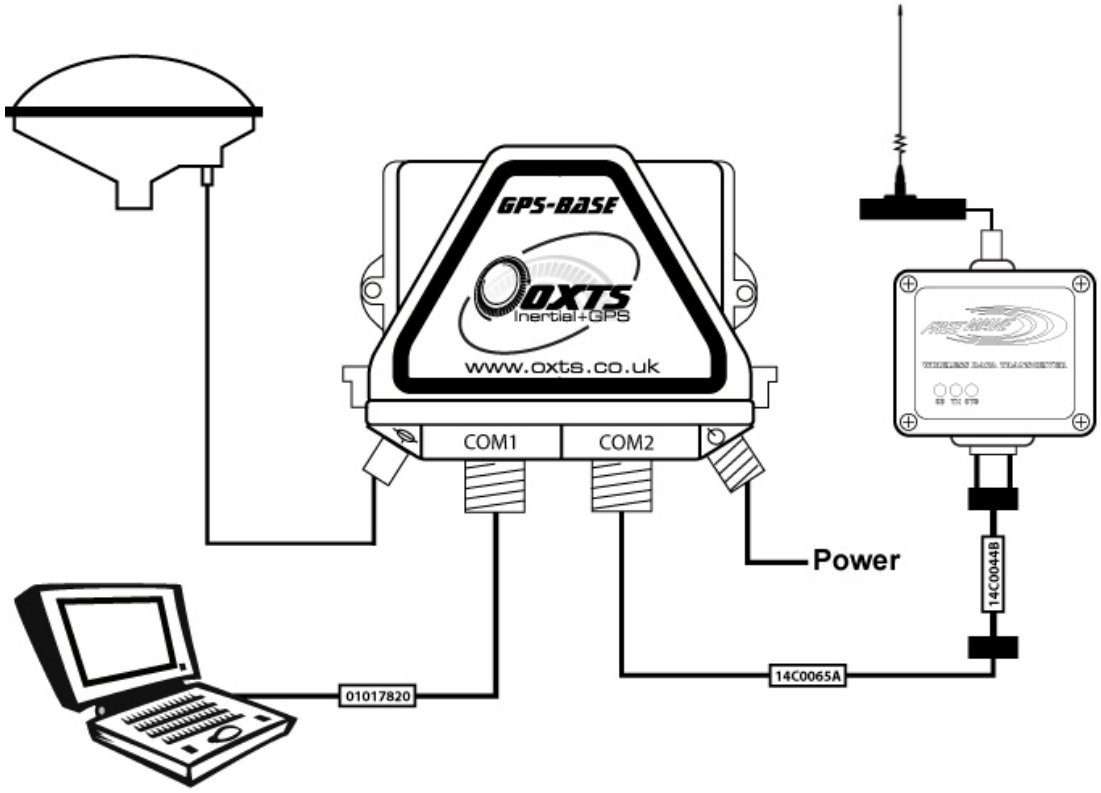
The FreeWave FGR-115RC system includes three components, the aerial, the radio modem and FreeWave adapter cable. These are shown in Figure 1 below.

Figure 1. FreeWave FGR-115RC and Antenna

Connections

The connection diagrams for the radio modems are shown in the figures below.

Figure 2. GPS-Base Connections for Radio Modem



Note: Earlier GPS-Base systems may have been shipped with a combined power and radio user cable 14C0052B in place of the separate power cable and radio cable 14C0065A.

Figure 3. RT-Base Connections for Radio Modem

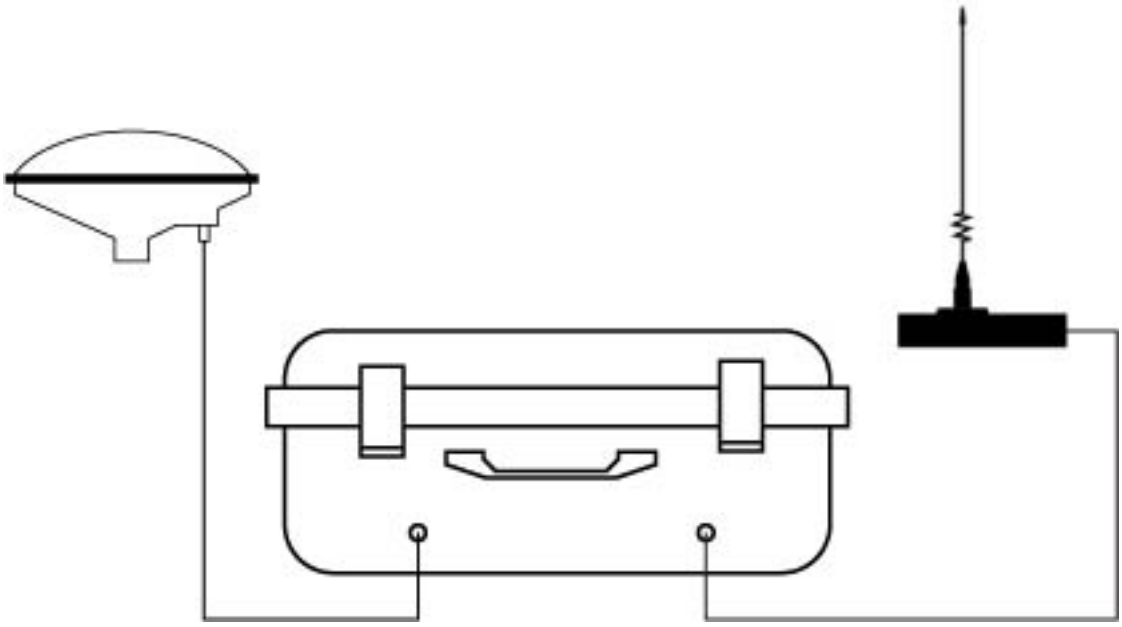
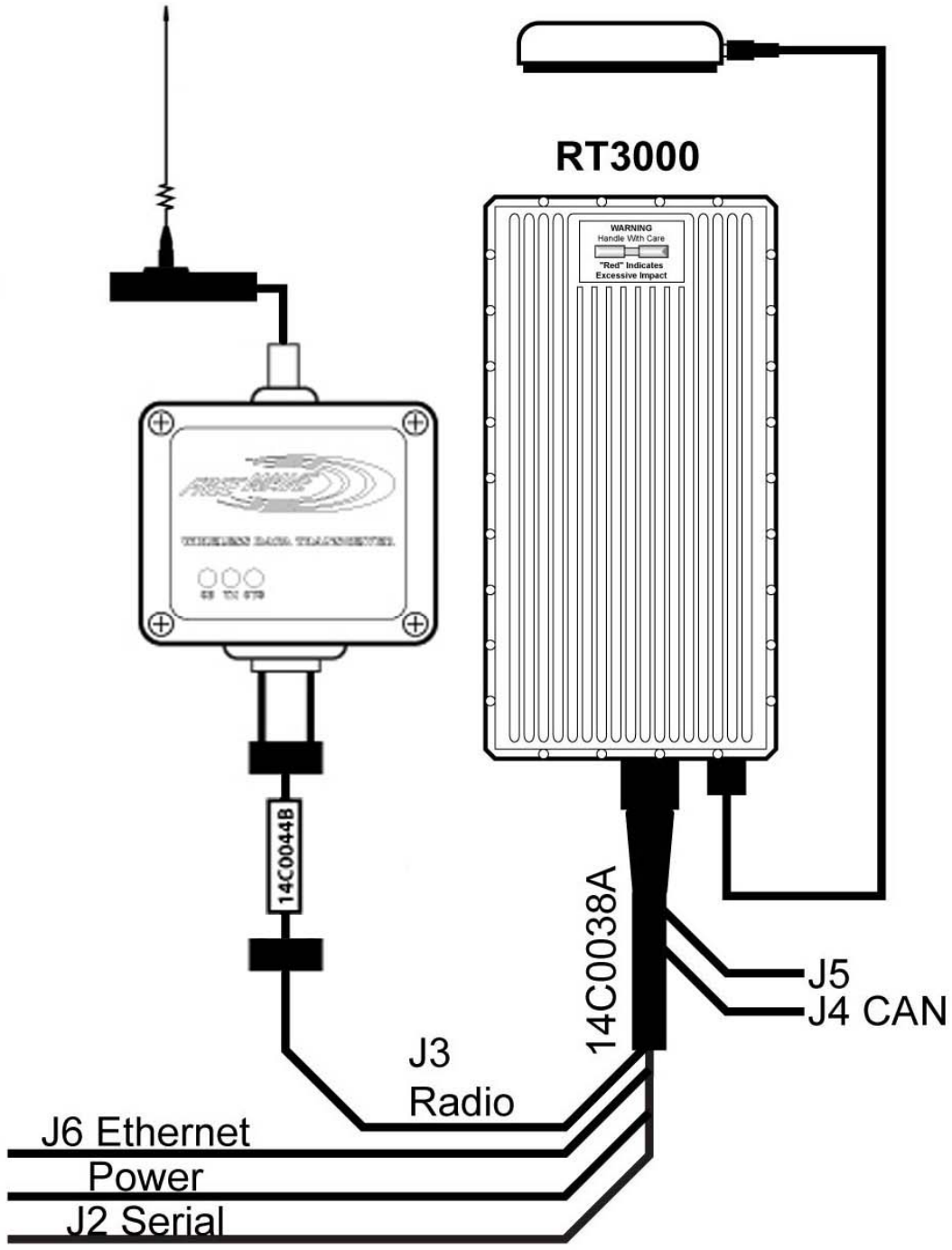


Figure 4. Mobile Connections for Radio Modem



Radio Modem Settings

Only the settings for normal operation are described here. Refer to the FreeWave FGR-115RC manual for details how to operate the radio modems.

Table 1. FreeWave FGR-115RC Settings

Menu	Sub-Menu	Base	Mobile
0 (Operation Mode)	Point to Slave Point to Master	 2	3
1 (Baud Rate)	6 A (Data Parity) D (set up port)	9600 0 (8-N-1) 3 (Both)	9600 0 (8-N-1) 3 (Both)
3 (Transmission Chars)	6 (Slave Security)	0(Enable)	1(Disable)
5 (Multipoint Parameters)	0 (No. Repeaters) 3 (Retry Odds) 6 (Network ID) [1] D (Radio ID) [2]	2 3 1 0	2 9 1 1

Note 1: The Network ID can be set from 0-4095. The Base and Mobile must have the same Network ID.
Note 2: The Radio ID can be set from 0-9999. Every radio must have a different Radio ID.

Operation

When operating the radio modems it is sensible to check that the signal is being transmitted correctly and received correctly.

The table below gives some combinations of the LEDs and describes their significance.

Table 2. LED States and Meanings

	Base			Mobile		
Condition	Carrier Detect (CD)	Transmit (TX)	Clear to Send (CTS)	Carrier Detect (CD)	Transmit (TX)	Clear to Send (CTS)
Powered No link	RED	RED	RED	RED	Off	Red Flash
Linked Sending data	Green	Slow Red flash	Slow Red flash	Green	Slow Red flash	Slow Red flash
Setup Mode	Green	Green	Green	Green	Green	Green

Revision History

Table 3. Revision History

Revision	Comments
091007	Initial version